

WHAT IS CLAIMED IS:

1 1. A method of accepting deposits of currency bills into a document processing
2 device for crediting to a specified account, comprising:

3 depositing a plurality of documents into an input receptacle of the document
4 processing device, wherein the plurality of documents include at least one currency bill bearing a
5 printed image that includes a serial number;

6 scanning the image of at least the serial number on each currency bill to produce
7 electronic data;

8 extracting the serial number of each currency bill from the electronic data;

9 denominating each currency bill;

10 accumulating the total value of the currency bills included in each deposit; and

11 generating a report whenever the accumulated total value exceeds a prescribed
12 value, the report comprising at least an identification of the specified account, the accumulated
13 total value, and the serial number for each currency bill included in the deposit.

1 2. The method according to claim 1, further comprising:

2 counting a number of currency bills of each denomination included in the deposit;

3 and

4 wherein generating the report includes generating the report to further comprise
5 the number of currency bills of each denomination included in the deposit.

1 3. The method according to claim 2, wherein generating the report further comprises
2 generating the report to include an identification of a location of the document processing device
3 into which the deposit was made, and an identification of a teller or customer responsible for the
4 deposit.

1 4. The method according to claim 3, wherein scanning further comprises scanning a
2 complete image on at least one side of each currency bill so as to produce the electronic data,
3 wherein generating the report includes generating the report to include complete images of the
4 currency bills included in the deposit.

1 5. The method according to claim 1, wherein the documents include at least one
2 deposit slip bearing an image, and wherein scanning includes scanning the image on the deposit
3 slip to produce the electronic data.

1 6. The method according to claim 1, further comprising:
2 reading the identification of the specified account from a card supplied by a
3 depositor; and
4 storing the specified account identification along with the scanned images relating
5 to the corresponding deposit.

1 7. The method according to claim 1, wherein the prescribed value is \$10,000.

1 8. The method according to claim 1, further comprising storing the electronic data so
2 that images of the documents may be retrieved and displayed for review at a time subsequent to
3 completion of the deposit.

1 9. The method according to claim 1, further comprising:
2 detecting a suspect counterfeit currency bill included in the deposit;
3 generating a signal indicating the detection of a suspect counterfeit bill; and
4 retaining electronic data representing at least a portion of an image on the detected
5 suspect counterfeit bill in association with the identification of the specified account.

1 10. The method according to claim 1, wherein transporting the plurality of documents
2 and denominating the plurality of documents occurs at a rate in excess of 800 documents per
3 minute.

1 11. The method according to claim 1, wherein transporting the plurality of documents
2 and denominating the plurality of documents occurs at a rate in excess of 1,000 documents per
3 minute.

12. A system for accepting deposits of currency bills into a document processing device for crediting to a specified account, comprising:

an input receptacle adapted to receive a plurality of documents associated with a deposit transaction, and wherein at least one currency bill is included in the plurality of documents;

at least one output receptacle for receiving the plurality of documents after they have been processed;

an image scanner adapted to scan an image of at least a serial number on each currency bill to produce electronic data;

a transport mechanism adapted to transport the plurality of documents, one at a time, from the input receptacle past the image scanner to the output receptacle;

a processor adapted to extract the serial number of each currency bill from the electronic data;

a denominating device for denominating each currency bill;

an accumulating device for accumulating a total value of the currency bills included in each deposit; and

a generating device for generating a report whenever the accumulated total value exceeds a prescribed value, the report including at least an identification of the specified account, the accumulated total value, and the serial number for each currency bill included in the deposit.

13. The system according to claim 12, further comprising a counting device for counting the number of bills of each denomination included in the deposit, and wherein the report includes the number of bills of each denomination included in the deposit.

1 14. The system according to claim 13, wherein the report further comprises:
2 an identification of a location of the document processing device into which the
3 deposit was made; and
4 an identification of a teller or customer responsible for the deposit.

1 15. The system according to claim 14, wherein the image scanner is adapted to scan
2 the complete image on at least one side of each of the currency bills to produce electronic data,
3 and wherein the report includes the complete images of all the bills included in the deposit.

1 16. The system according to claim 15, wherein the plurality of documents includes at
2 least one deposit slip bearing an image, and wherein the scanner is adapted to scan an image of
3 the at least one deposit slip to produce electronic data representing the image, and wherein the
4 report includes the image of the at least one deposit slip.

1 17. The system according to claim 16, further comprising:
2 a card reader that reads the indication of the specified account from a card
3 supplied by the depositor; and
4 a memory storing account identification with the image data relating to the
5 corresponding deposit.

1 18. The system according to claim 17, further comprising a memory storing the
2 electronic data such that the images can be retrieved and displayed for review at a time
3 subsequent to completion of the deposit transaction.

1 19. The system according to claim 18, further comprising a suspect counterfeit
2 detector that detects suspect counterfeit currency bills included in the deposit and generates a
3 signal that indicates the detection of a suspect counterfeit bill and causes electronic data
4 representing at least a portion of an image on the detected suspect counterfeit bill to be retained.

1 20. The system according to claim 19, wherein the transport mechanism is adapted to
2 transport documents, and the denominating device is adapted to denominate documents at a rate
3 in excess of 800 documents per minute.

1 21. The system according to claim 19, wherein the transport mechanism is adapted to
2 transport documents, and the denominating device is adapted to denominate documents at a rate
3 in excess of 1000 documents per minute.

22. The system according to claim 19, wherein the prescribed value is \$10,000.

1 23. A document processor for processing a deposit of currency bills into a specified
2 account at a financial institution, comprising:

3 an input receptacle adapted to receive documents associated with the deposit
4 transaction, the documents including at least one currency bill;

5 at least one output receptacle for receiving the documents after they have been
6 processed;

7 an image scanner adapted to scan an image on at least a portion of each currency
8 bill to produce electronic data;

9 a transport mechanism adapted to transport the documents, one at a time, from the
10 input receptacle past the image scanner to the at least one output receptacle;

11 a denominating device to denominate documents which are currency bills; and

12 a processor programmed to accumulate the total value of the currency bills
13 included in each deposit, and to generate a report whenever the accumulated total value exceeds a
14 prescribed value, the report containing at least an identification of the specified account, the
15 accumulated total value and the scanned images of the currency bills included in the deposit.

1 24. The processor according to claim 23, wherein the transport mechanism is adapted
2 to transport documents, and the denominating device is adapted to denominate documents at a
3 rate of approximately 800 to 1000 documents per minute.

1 25. The processor according to claim 24, wherein the transport mechanism is adapted
2 to transport documents, and the denominating device is adapted to denominate documents at a
3 rate in excess of 1000 documents per minute.

1 26. The processor according to claim 23, further comprising
2 a memory adapted to store the electronic data from the image scanner so that the
3 scanned images may be retrieved and displayed for review after completion of the deposit;
4 a counting device which counts the number of currency bills of each denomination
5 included in the deposit; and
6 wherein the report includes the number of currency bills of each denomination
7 included in the deposit.

1 27. The processor according to claim 26, wherein the report includes an identification
2 of a location of the document processing device into which the deposit was made, and an
3 identification of a teller or customer responsible for the deposit.

1 28. The processor according to claim 27, wherein the image scanner is adapted to scan
2 the complete image on at least one side of each of the currency bills to produce electronic data,
3 and the report includes the complete images of all the currency bills included in the deposit.

1 29. The processor according to claim 28, wherein the documents include at least one
2 deposit slip bearing an image, the scanner is adapted to scan an image of the deposit slip to
3 produce electronic data, and the report includes the image of the deposit slip.

1 30. The processor according to claim 29, wherein the prescribed value is \$10,000.

1 31. The processor according to claim 30, wherein the image scanner is adapted to scan
2 a serial number for each currency bill to generate electronic data, and the report includes the serial
3 number for each currency bill.

1 32. A method for processing a deposit of currency bills into a specified account at a
2 financial institution, comprising:
3 receiving documents associated with the deposit transaction;
4 scanning an image on at least a portion of each bill to produce electronic data;
5 transporting the documents, one at a time, from the input receptacle past the image
6 scanner to at least one output receptacle;
7 denominating documents which are currency bills;
8 storing the electronic data from the image scanner so that the scanned images may
9 be retrieved and displayed for review after completion of the deposit;
10 accumulating a total value of the currency bills included in each deposit; and
11 generating a report whenever the accumulated total value exceeds a prescribed
12 value, the report including at least an identification of the specified account, the accumulated total
13 value and the scanned images of each currency bill included in the deposit.

1 33. The method according to claim 32, wherein denominating further denominating
2 documents at a rate of approximately 800 to 1000 documents per minute.

1 34. The method according to claim 32, wherein denominating further comprises
2 denominating documents at a rate in excess of 1000 documents per minute.

1 35. The method according to claim 32, wherein generating a report further comprises
2 generating the report whenever the accumulated total value exceeds \$10,000.

1 36. The method according to claim 32, further comprising:
2 counting the number of currency bills of each denomination included in the
3 deposit; and
4 generating a report which includes the number of currency bills of each
5 denomination included in the deposit.

1 37. The method according to claim 36, wherein generating the report further
2 comprises:
3 identifying a location of the document processing device into which the deposit
4 was made; and
5 identifying a teller or customer responsible for the deposit.

1 38. The method according to claim 37, wherein scanning further comprises scanning
2 the complete image on at least one side of each currency bill to produce electronic data.

1 39. The method according to claim 38, wherein generating the report further
2 comprises generating the report which includes the complete image of each currency bill included
3 in the deposit.

1 40. The method according to claim 39, further comprising:
2 receiving a deposit slip bearing an image;
3 scanning an image of the deposit slip to produce electronic data; and
4 generating the report which includes the imaged deposit slip.

1 41. The method according to claim 40, further comprising:
2 scanning a serial number for each currency bill to produce electronic data; and
3 generating the report which includes the serial number.

1 42. The method according to claim 41, wherein the prescribed value is \$10,000.

1 43. A method of tracking currency bills in a financial institution, comprising:
2 scanning at least a portion of an image on at least one side of at least one currency
3 bill handled by the financial institution to produce electronic data;
4 storing the electronic data in association with electronic data representing a
5 location of each currency bill within the financial institution; and
6 updating the stored data when at least one currency bill is moved so as to permit
7 retrieval of the electronic data of each currency bill located at a specified location at a specified
8 time and date.

1 44. The method according to claim 42, wherein the different locations include teller
2 stations, to permit the retrieval of images of currency bills located at a specified teller station at a
3 specified time and date.

1 45. A system for tracking currency bills in a financial institution, comprising:
2 an image scanner adapted to scan at least a portion of an image on at least one side
3 of at least one currency bill handled by the financial institution to produce electronic data;
4 a memory adapted for storing the electronic data in association with electronic
5 data representing a location of each currency bill within the financial institution; and
6 means for updating the stored data when each currency bill is moved so as to
7 permit retrieval of the electronic data of each currency bill located at a specified location at a
8 specified time and date.

1 46. The system according to claim 45, wherein the locations include teller stations, to
2 permit the retrieval of images of currency bills located at a specified teller station at a specified
3 time and date.

1 47. A method of processing checks that have been inserted into a check processing
2 device, comprising:
3 receiving a stack of checks to be evaluated in an input receptacle of the device;
4 transporting the stack of checks, one at a time, from the input receptacle along a
5 transport path;
6 scanning an image on at least one side of the checks as the checks are transported
7 along the transport path to produce electronic data;
8 electronically tagging the images of at least selected checks with endorsement data
9 from payee banks;
10 storing the tagged images such that the tagged images can be subsequently
11 retrieved and displayed;
12 transferring the electronically tagged images of checks from payee banks to payor
13 banks; and
14 electronically canceling those tagged images and the payor banks and returning the
15 cancelled images to the drawers of the checks.

1 48. The method according to claim 47, further comprising denominating and
2 authenticating each of the currency bills.

1 49. An apparatus for processing checks, comprising:
2 an input receptacle adapted to receive a stack of checks to be evaluated;
3 a transport mechanism adapted to transport the stack of checks, one at a time,
4 from the input receptacle along a transport path;
5 a scanner adapted to scan an image on at least one side of the checks as the checks
6 are transported along the transport path to produce electronic data;
7 a device for electronically tagging the images of at least selected checks with
8 endorsement data;
9 a memory for storing the tagged images such that the tagged images can be
10 subsequently retrieved and displayed;
11 a device for transferring the electronically tagged images of checks from payee
12 banks to payor banks; and
13 a device for electronically canceling those tagged images at the payor banks and
14 returning the cancelled images to the drawers of the checks.

1 50. The apparatus according to claim 49, further comprising a device for denominating
2 and authenticating each of the currency bills.

1 51. A system for processing withdrawals of currency bills from a specified account in a
2 financial institution, comprising:
3 a customer interface for accepting a withdrawal request identifying the specified
4 account and an amount of the requested withdrawal;
5 a computer and associated memory including a current balance of the specified
6 account and at least partial images of a multiplicity of currency bills;
7 an identification device for identifying a set of currency bills to satisfy the
8 withdrawal request, the currency bills corresponding to stored images thereof; and
9 a memory storing an identification of the specified account, the amount of the
10 withdrawal, and identification of the stored images of the set of currency bills.

1 52. The system of claim 51, further comprising:
2 a processor for determining whether the images of the currency bills included in
3 the set are already stored; and
4 an image scanner adapted to scan the images on at least a portion of any bills
5 included in the set that do not have stored images to produce electronic.

1 53. The system of claim 52, further comprising:
2 an extraction device for extracting the serial numbers of the currency bills in the set
3 from the stored images; and
4 wherein the memory for storing stores the serial numbers with the identification of
5 the specified account and the amount of the withdrawal.

1 54. The system of claim 53, further comprising a generating device for generating a
2 report whenever a withdrawal of currency bills is requested from a designated account, the report
3 including at least an identification of the designated account, an amount of the withdrawal, and
4 the serial numbers of the bills dispensed to satisfy the withdrawal request.

1 55. The system of claim 54, further comprising:
2 an image scanner adapted to scan at least a portion of the image on the withdrawal
3 request to produce electronic data representing the image, and
4 means for extracting an identity of a customer requesting the withdrawal from the
5 electronic data representing the image.

1 56. A method of processing withdrawals of currency bills from a specified account in a
2 financial institution, comprising:
3 accepting a withdrawal request identifying the specified account and an amount of
4 the requested withdrawal;
5 determining whether the specified account contains the amount;
6 identifying a set of currency bills to satisfy the withdrawal request and dispensing
7 the set of currency bills; and
8 storing an identification of the specified account, the amount of the withdrawal,
9 and the identification of the set of currency bills.

1 57. The method of claim 56, further comprising :
2 determining whether images of the bills included in the set are already stored;
3 scanning the images on at least a portion of any bills included in the set that do not
4 have stored images to produce electronic data representing the images, the electronic data being
5 capable of generating a display of the scanned images, and storing the data representing the
6 images.

1 58. The method of claim 57, further comprising :
2 extracting a serial number of each of the currency bills in the set from the stored
3 data representing the images; and

4 storing the serial numbers with the identification of the specified account and the
5 amount of the withdrawal.

1 59. The method of claim 58, further comprising:
2 generating a report whenever a withdrawal of currency bills is requested from the
3 specified account, the report comprising at least an identification of the specified account, the
4 amount of the withdrawal, and a serial number of each of the bills dispensed to satisfy the
5 withdrawal request.

1 60. The method of claim 59, which comprises:
2 scanning at least a portion of an image on the withdrawal request to produce
3 electronic data representing the image; and
4 extracting an identity of a customer requesting the withdrawal from the electronic
5 data representing the image.